Quelle TECHNISCHER KUNDENDIENST

# Technische Unterlage

Best.-Nr. 107 714 8

# VTC-CD 10654

**Achtung:**
Die Surround-Lautsprecher **LBS 10654** sind im Lieferumfang **nicht** enthalten, können aber unter der Bestellnummer 815.063 3 nachbestellt werden.

UTS-Nr.: 999 QUELLE
Best.Nr.: 1077148/01
Ger.Bez.: UNIVERSUM-MINI-ANLAGE

GKz: G GERAET
WGT: 650 MICRO-/MINI-ANLAGEN
KD-Sektor: R RUNDFUNK
BaumNr.: 00 KEIN DIAGNOSEBAUM VORHANDEN
Klassierung: STK STEREOKOMBINATION
IFW-FehlerGru.: 205 RDF.,VERST.,TB.,PHONO,CD,CB
Type/Privileg/Universum.Nr **VTC-CD 10654**
Beschreibung 3CD-WECHSLER
VK-Preis: 349.00

Serviceart: 01 QUELLE-TKD
Garantie fuer Kunden 06 Monate
Sondervereinbarungen: 0 SIEHE SERVICEART

Garantiereparatur 9999999 QUELLE

## *Technische Daten*

| | |
|---|---|
| Netzanschluß: | 230 V ~ +6 /-10% 50 Hz |
| Leistungsaufnahme: | 125 Watt max. |
| Abmessungen in cm. ca.: | Breite 29 Höhe 30, Tiefe 34 |

**Verstärkerteil**

| | |
|---|---|
| Maximale Ausgangsleistung: | 120 Watt (2 x 60 Watt) |
| Lautsprechermindestimpedanz: | 4 Ohm (Anschlußwert) |
| Übertragungsbereich: | von 40 Hz - 16 kHz 1,5 dB |
| Übersprechdämpfung: | 30 dB bei 1000 Hz |

| | |
|---|---|
| **FM-Bereich (UKW)** | 87,5 - 108 MHz |
| Empfindlichkeit: | 6 µV |
| Hub: | 22,5 kHz und S/R - 26 dB: |
| 40 kHz Hub - 46 dB S/R: | 40 µV |
| Pilotunterdrückung: | 19 kHz = 40 dB |
| | 38 kHz = 50 dB |
| **MW-Bereich** | 521 - 1620 kHz |
| Empfindlichkeit | 1500 µV 26 dB S/N |

**Cassettenteil**

| | |
|---|---|
| Übertragungsbereich Aufnahme und Wiedergabe: | (-8 dB) 63Hz - 12500 Hz |
| Geschwindigkeitsabweichung: | 1.0 % |
| Tonhöhenschwankung: | 0.3 % |
| Tonband: | Normalcassetten/Chrom |

**CD-Spieler**

| | |
|---|---|
| Optischer Tonabnehmer: | 3-Strahlen-Laser |
| Fehlerkorrektur: | CIRC |
| D/A-Umwandler: | 16-Bit linear |
| Filter: | Digitalfilter der 7.Ordnung |

KAT. 97 2 DATUM 03.02.97 SEITEN 016

Quelle Schickedanz AG & Co.
Kundendienstzentralleitung Duisburger Str. 57, 90451 Nürnberg
Bei allen Reparaturen sind die gültigen Sicherheitsvorschriften zu beachten!

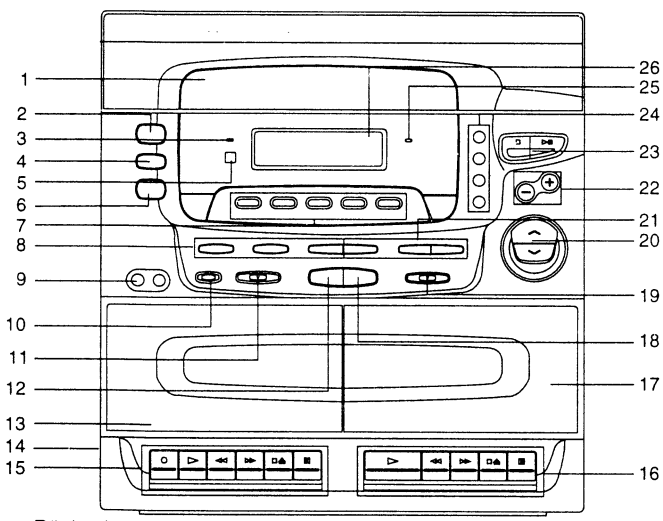
Nachdruck nicht gestattet
Änderungen vorbehalten

## *Bedienungselemente und Funktionen*

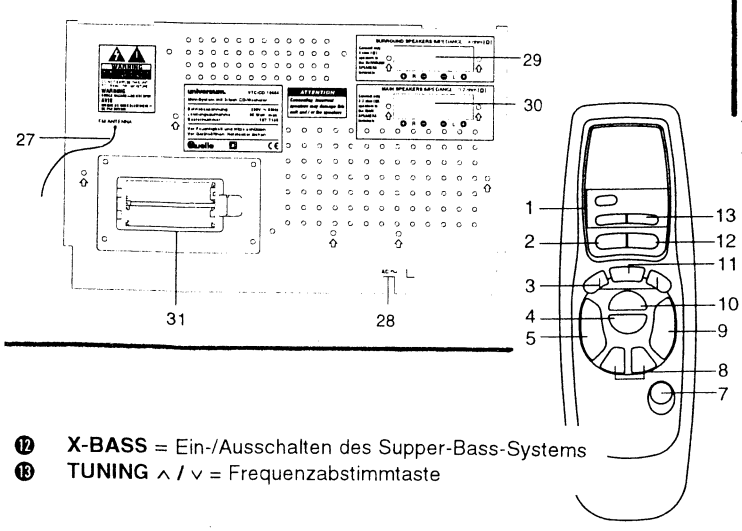
① CD-Plattenfach
② **POWER/STANDBY** = Ein-/Ausschalten aus Bereitschaft
③ **POWER/STANDBY** = Bereitschaftsanzeige
④ **DISK SKIP** = Wahl des CD-Faches
⑤ Fernbedienungsempfänger
⑥ **OPEN/CLOSE** = Öffnen/Schließen des CD-Plattenfaches
⑦ **1 - 5** = Senderspeichertasten
⑧ Funktionstasten für CD
**REPEAT** = Wiederholautomatik
**PROGRAM** = Speichern der Abspielreihenfolge
**RANDOM** = Wiedergabe in einer Zufallsreihenfolge
⑨ **PHONES** = Kopfhörerbuchse; 3,5 mm Ø Klinkenstecker
⑩ **BEAT CUT 1-2** = Umschalten der Vormagnetiesierung
**FM STEREO - FM MONO** = Stereo-/Mono-Umschaltung
**DUBBING NORMAL-HIGH** = Kopiergeschwindigkeit
**HIGH** = erhöhte Kopiergeschwindigkeit
**NORMAL** = normale Kopiergeschwindigkeit
⑪ Funktionsschalter:
**TAPE** = für Cassettenwiedergabe
**TUNER** = für Rundfunkbetrieb
**CD** =Funktionstaste für CD-Spieler
⑫ **X-BASS** = Ein-/Ausschalten des Super-Baß-Systems
⑬ Cassettenfachdeckel **TAPE** „A"
⑭ **POWER** = Netzschalter
⑮ Laufwerktasten **TAPE** „A" für Aufnahme/Wiedergabe
**PAUSE** = Unterbrechen der Aufnahme
**STOP/EJECT** = Beenden der Wiedergabe, Öffen des Cassettenfachs
**F.FWD** = schneller Vorlauf
**REW** = schneller Rücklauf
**PLAY** = Wiedergabetaste
**REC** = Aufnahmetaste
⑯ Laufwerktasten **TAPE** „B" nur für Wiedergabe
**PAUSE** = Pause, Unterbrechung
**STOP/EJECT** = Stop, Cassettenfach öffnen
**F.FWD** = schneller Vorlauf
**REW** = schneller Rücklauf
**PLAY** = Cassettenwiedergabe
⑰ Cassettenfachdeckel **TAPE** „B" nur Wiedergabe
⑱ **SURROUND** = Taste zum Surround Ein-/Ausschalten
⑲ **BAND** = Wahl des Empfangsbereichs
**AM** = Mittelwelle/**FM** = UKW
⑳ **VOLUME** = Lautstärkereglertasten;
drücken von △ erhöht und ▽ veringert die Lautstärke
㉑ Funktionstasten für Tuner
**SHIFT** = Aufrufen der zweiten Speicherebene
**MEMORY** = Senderspeichertaste
**AUTO SCAN** = automatischen Sendersuchlauf
㉒ **TUNING + / -** = Frequenzabstimmtaste
㉓ **PLAY/PAUSE** = Starten der Wiedergabe, Pause
**STOP** = Beenden der Wiedergabe
㉔ **SKIP +** = Titelwahl vorwärts, **SKIP -** = Titelwahl rückwärts
◀◀ = Suchlauf vorwärts, ▶▶ = Suchlauf rückwärts
㉕ **FM STEREO** = Leuchtet bei Stereoempfang
㉖ Display-Anzeige

### Rückseite

㉗ UKW-Wurfantenne
㉘ Netzanschlusskabel 230 Volt/50 Hz
㉙ **SURROUND-SPEAKERS** Anschlußbuchsen
**R** = rechter Kanal
**L** = linker Kanal
㉚ Lautsprecheranschlüsse **SPEAKER R + L**
㉛ Batteriefach für zwei 1,5 Volt Batterien (LR 06)



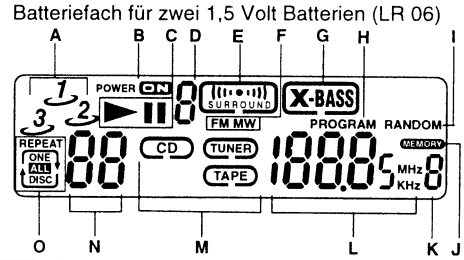
Rückseite







⑫ **X-BASS** = Ein-/Ausschalten des Supper-Bass-Systems
⑬ **TUNING ∧ / ∨** = Frequenzabstimmtaste



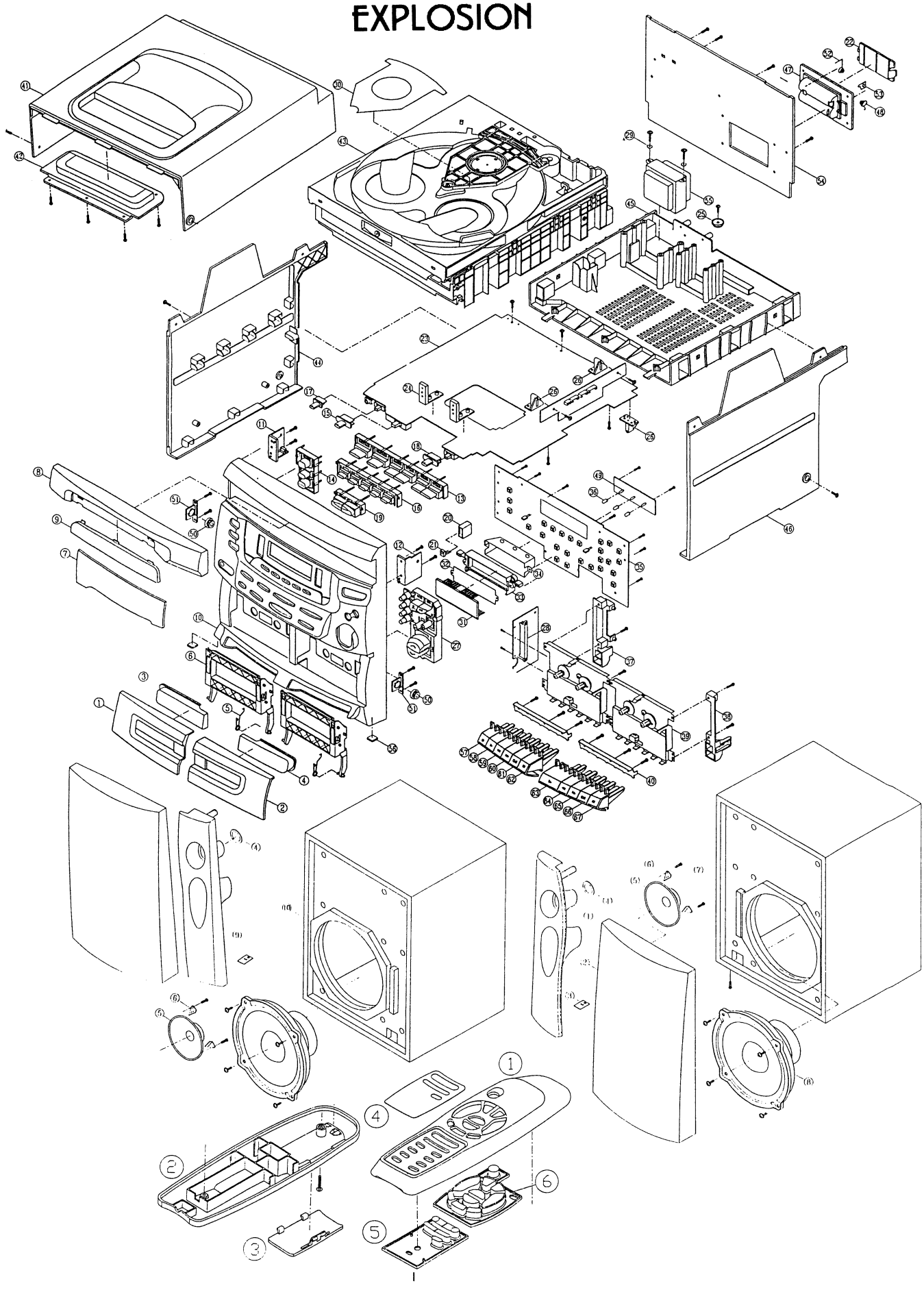

### *Anzeigen im Display*

Ⓐ **1 - 2 - 3** = Anzeige der eingelegten CD´s
Ⓑ **POWER ON**
Ⓒ ▶ II = Wiedergabe-/Pauseanzeige
Ⓓ Nummernanzeige der gewählten CD
Ⓔ **SURROUND** = aktive Surround-Funktion
Ⓕ **FM/AM** = Bereichsanzeige
Ⓖ X-**BASS** = baßbetonte Wiedergabe
Ⓗ **PROGRAM** = Programmierte Reihenfolge
Ⓘ **RANDOM** = Zufallswiedergabe
Ⓙ **MEMORY** = Senderspeicher
Ⓚ Nummer des Senderspeichers
Ⓛ Senderfrequenz
Ⓜ Anzeige der gewählten Funktion **CD**, **TUNER** oder **TAPE**
Ⓝ Anzeige der Titelnummern
Ⓞ Anzeige der gewählten Repeat-Funktion

### *Bedienungselemente und Funktionen der Fernbedienung*

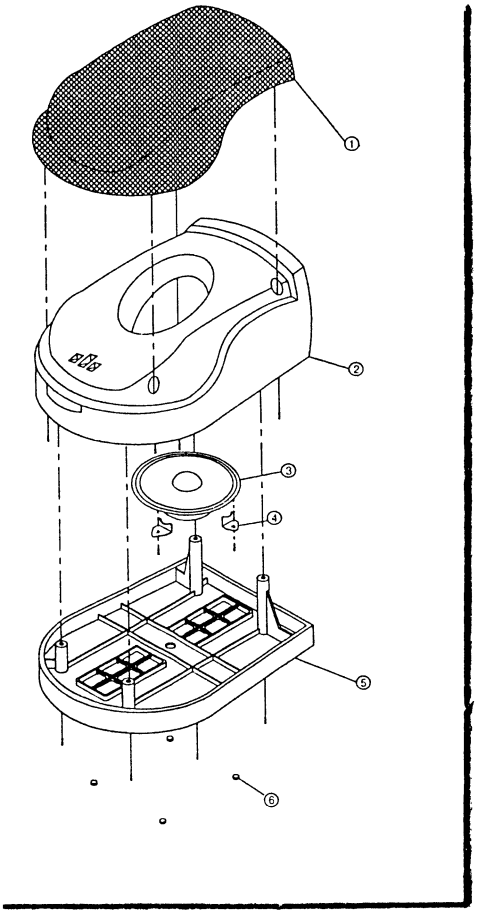
❶ **AUTO SCAN** = automatischer Sendersuchlauf
❷ **SURROUND** = Taste zum Surround ein-/ausschalten
❸ ◀◀ = Suchlauf vorwärts, ▶▶ = Suchlauf rückwärts
❹ **DISK SKIP** = Wahl des CD-Faches
❺ **SKIP** ∧ = Titelwahl vorwärts, **SKIP** ∨ = Titelwahl rückwärts
❻ Batteriefach 2 x 1,5 V Micro LR 03 (Rückseite)
❼ **POWER** = Ein-/Ausschalten der Anlage
❽ **PLAY/PAUSE** = Starten der Wiedergabe, Pause
**STOP** = Beenden der Wiedergabe
❾ **VOLUME** = Lautstärkereglertasten;
drücken von △ erhöht und ▽ veringert die Lautstärke
❿ **OPEN/CLOSE** = Öffnen/Schließen des CD-Plattenfaches
⓫ **REPEAT** = Wiederholautomatik

# EXPLOSION

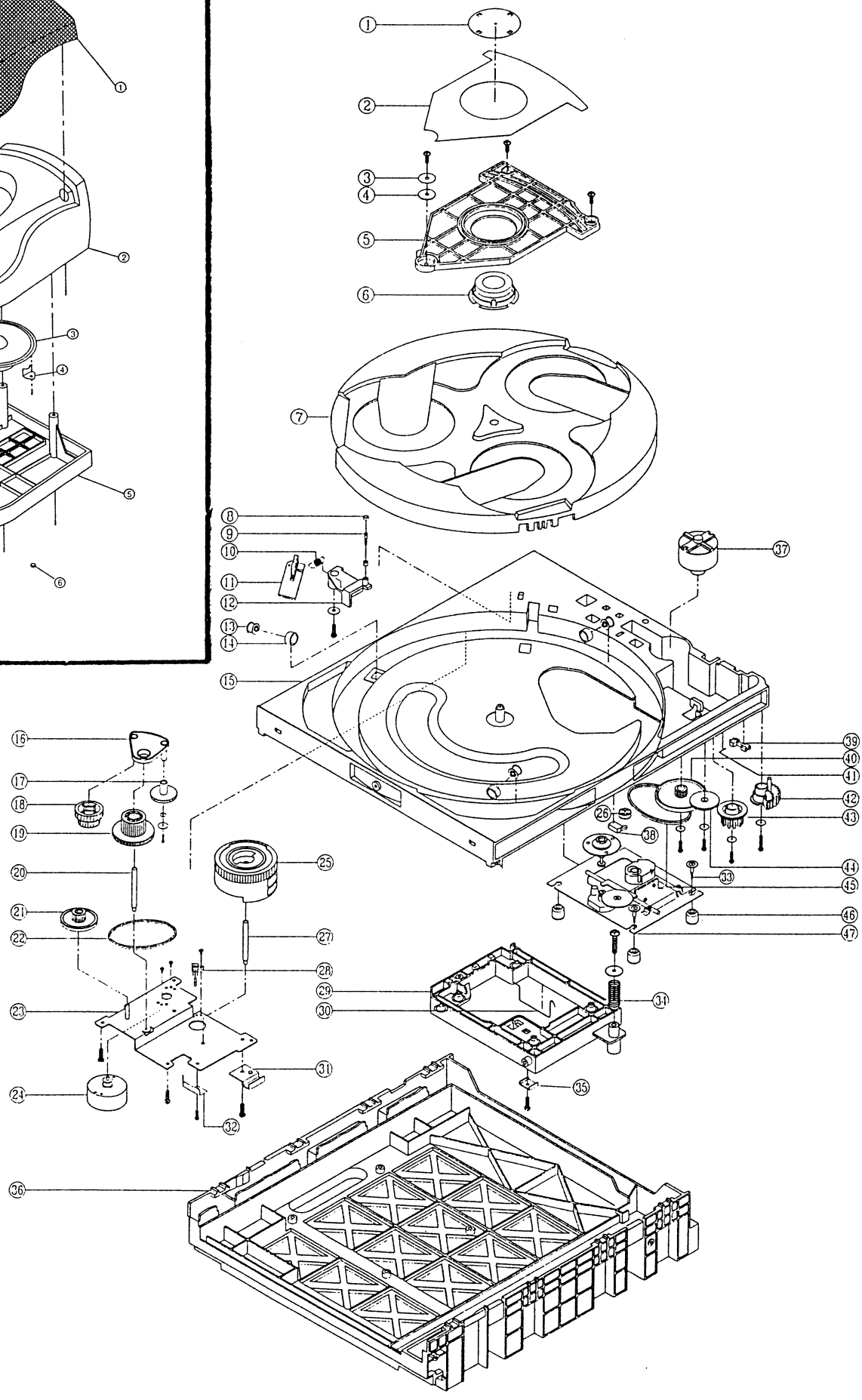


# EXPLOSION CD

EXPLODED VIEW (SURROUND SPEAKER)



3CD-3 CD MECHANISM EXPLODED



TEST CONDITION: TAPE PLAY

## CASSETTE SECTION

IC902(KA2209)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| TAPE PLAY | 4.57 | 9.58 | 4.52 | 0 | 0.53 | 0 | 0 | 0.54 |

IC101(TA8173AP)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| PLAY | 0 | 1.87 | 1.85 | 1.89 | 1.86 | 1.88 | 1.87 | 3.90 |
| PIN'S NUMBER | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| PLAY | 1.90 | 1.91 | 1.92 | 1.90 | 2.22 | 1.88 | 1.88 | 1.86 |

IC102(TA8227)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAPE PLAY | 0.21 | 0.09 | 0.21 | 0 | 0.09 | 0 | 0 | 0.10 | 0.21 | 0.21 | 0.10 | 10.92 |

| | Q801(1185) | | | Q802(C458) | | | Q803(8550) | | | Q805(C458) | | | Q806(8550) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | E | C | B | E | C | B | E | C | B | E | C | B | E | C | B |
| TAPE PLAY | 11.24 | 8.33 | 10.67 | 7.62 | 10.26 | 8.23 | 10.98 | 10.73 | 10.19 | 9.55 | 10.22 | 10.18 | 10.97 | 10.14 | 10.20 |

IC301(TA8189N)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DECK A | 0 | 0 | 1.26 | 1.35 | 1.35 | 2.78 | 0 | 0 | 1.88 | 1.26 | 0 | 0 |
| DECK B | 0 | 0 | 1.26 | 1.35 | 1.35 | 2.79 | 0 | 0 | 1.88 | 1.26 | 0 | 0 |
| PIN'S NUMBER | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| DECK A | 0.86 | 0 | 1.27 | 1.90 | 1.44 | 6.74 | 0 | 1.35 | 1.35 | 1.26 | 0 | 0 |
| DECK B | 0.85 | 0 | 1.27 | 1.89 | 1.44 | 6.74 | 1.43 | 1.34 | 1.34 | 1.26 | 0 | 0 |

| | Q352(8050) | | | Q360(C458) | | | Q361(C458) | | |
|---|---|---|---|---|---|---|---|---|---|
| | E | C | B | E | C | B | E | C | B |
| NOR. REC. | 0 | 8.34 | 8.33 | 9.15 | 9.10 | 8.40 | 4.90 | 5.73 | 5.59 |
| HI. REC. | 7.93 | 8.33 | 8.32 | 9.28 | 9.34 | 8.54 | 4.93 | 5.70 | 5.56 |

## REMOTE SECTION

TEST CONDITION: QUIET VOLTAGE

IC501(TC9148P)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| | 0 | 2.51 | 2.68 | 0 | 0 | 0 | 0 | 0 |
| PIN'S NUMBER | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | 0 | 2.68 | 2.68 | 2.68 | 2.66 | 2.66 | 2.68 | 2.68 |

IC701(TC9150P)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5.41 | 5.42 | 0 | 0 |
| PIN'S NUMBER | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5.40 | 5.42 | 2.77 | 5.42 |

| | Q503(V458) | | | Q504(8550) | | | Q701(C458) | | | Q702(A844) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | E | C | B | E | C | B | E | C | B | E | C | B |
| | -1.39 | 3.00 | 0 | 3.00 | 0 | 3.00 | 0 | 5.39 | 0 | 5.36 | 0 | 5.36 |

## CONTROL & DISPLAY SECTION

IC601(47C820)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 2.57 | 2.56 | 2.57 | 2.58 | 2.57 | 2.59 | 2.57 | 0 | 0.25 | 0 | 0 | 0 | 0 | 0 |
| PIN'S NUMBER | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| | 0 | 0 | 0 | 0 | 0 | 2.32 | 2.36 | 4.74 | 0.16 | 4.83 | 4.83 | 4.82 | 4.84 | 0.08 | 0.08 |
| PIN'S NUMBER | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |
| | 4.79 | 0 | 4.86 | 0 | 4.85 | 0 | 4.82 | 0.09 | 4.82 | 0.07 | 4.50 | 0 | 4.37 | 4.48 | 0 |
| PIN'S NUMBER | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| | 0 | 0 | 0 | 4.85 | 0 | 4.83 | 4.70 | 2.25 | 2.58 | 2.57 | 2.57 | 2.57 | 2.57 | 2.57 | 2.56 |
| PIN'S NUMBER | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 |
| | 2.57 | 2.57 | 2.57 | 0 | 2.57 | 2.57 | 2.57 | 2.57 | 2.52 | 2.57 | 2.58 | 2.57 | 2.57 | 2.57 | 2.57 |
| PIN'S NUMBER | 76 | 77 | 78 | 79 | 80 | | | | | | | | | | |
| | 2.57 | 2.55 | 2.58 | 2.58 | 2.58 | | | | | | | | | | |

IC204(BU4030)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FM | 1.34 | 2.48 | 1.34 | 0.50 | 1.34 | 2.48 | 0 | 0 | 1.41 | 1.41 | 1.41 | 0 | 1.41 | 2.48 |
| CD PLAY | 1.35 | 2.49 | 1.34 | 0.51 | 1.35 | 2.49 | 0 | 0 | 1.42 | 1.42 | 1.42 | 0 | 1.42 | 2.49 |
| TAPE PLAY | 1.34 | 2.49 | 1.34 | 0.50 | 1.35 | 2.49 | 0 | 0 | 1.41 | 1.41 | 1.41 | 0 | 1.41 | 2.49 |

IC205(BU4030)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FM | 0 | 1.41 | 1.41 | 1.40 | 0 | 1.41 | 0 | 2.53 | 1.41 | 1.07 | 1.07 | 1.41 | 2.80 | 2.48 |
| CD PLAY | 0 | 1.42 | 1.42 | 1.09 | 2.29 | 1.42 | 0 | 0 | 1.42 | 1.42 | 1.08 | 1.42 | 2.81 | 2.49 |
| TAPE PLAY | 2.30 | 1.41 | 1.08 | 1.41 | 0 | 1.41 | 0 | 0 | 1.42 | 1.41 | 1.08 | 1.41 | 2.80 | 2.49 |

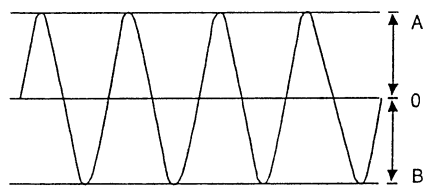
# ABGLEICH CD

## ALIGNMENT SET-UP PROCEDURES

### CD SECTION

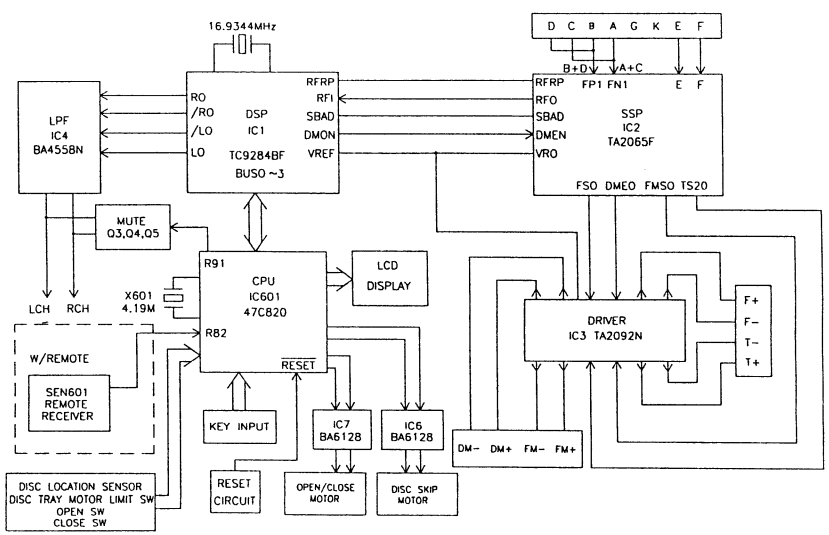
1. RF Adjustment
   Test point: C17 and VREF
   1). Connect an oscilloscape to the test points
   2). Turn on the power switch
   3). Load the test Disc(TCD-782) and play the NO.2(1KHz odB)
   4). Adjust VR1 so that the RF peak is Max and waveform eye pattern is optimum
   5). Turn off the power switch
   VR1 ---------- Waveform 1.8 Vpp ± 0.3V

2. EF Balance Adjustment
   Test point: J19 and VREF
   1). Connect an oscilloscape to the test points
   2). Turn on the power switch
   3). Load the test Disc (TCD-782) and play the NO.2 (1KHz odB)
   4). Adjust VR2 so that EF waveform is symmefrical
   5). Turn off the power switch




A=B VOLT/DIV : 20mV
TIME/DIV : 1mS

CD223D(10W) CD SECTION BLOCK DIAGRAM



# VOLTAGE CHART

## TUNER SECTION

TEST CONDITION: FM/AM TUNER ON FREQUENCY

IC130(TA7358AP)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| FM | 0.87 | 1.59 | 7.35 | 1.56 | 0 | 7.37 | 6.60 | 7.32 | 7.37 |

IC120(BA1448S)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM | 2.06 | 5.12 | 0 | 0 | 4.26 | 0 | 4.27 | 0.05 | 4.37 | 1.54 | 1.56 | 0 |
| FM | 2.07 | 5.44 | 0.32 | 0 | 3.75 | 1.75 | 4.17 | 0.06 | 4.67 | 1.56 | 1.59 | 2.01 |
| PIN'S NUMBER | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| AM | 1.69 | 2.06 | 2.06 | 2.03 | 2.06 | 5.24 | 5.05 | 0.97 | 2.27 | 2.03 | 2.06 | 1.83 |
| FM | 1.55 | 2.08 | 2.07 | 1.90 | 2.08 | 5.42 | 5.43 | 0.03 | 2.06 | 2.05 | 2.06 | 2.07 |

IC170(TC9153)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| VOL UP | 0 | 3.84 | 3.83 | 3.84 | 3.83 | 3.83 | 5.62 | 7.70 |
| PIN'S NUMBER | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| VOL UP | 7.64 | 7.69 | 3.83 | 3.84 | 3.84 | 3.83 | 3.84 | 7.71 |

IC102(TC9307AF-008)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | 4.50 | 4.50 | 4.50 | 4.50 | 1.53 | 3.00 | 3.00 | 3.01 | 3.01 | 3.00 | 3.01 |
| FM | 0 | 0 | 0 | 0 | 4.41 | 4.42 | 4.41 | 4.42 | 1.45 | 2.93 | 2.93 | 2.93 | 2.93 | 2.93 | 2.92 |
| PIN'S NUMBER | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| AM | 3.02 | 4.51 | 3.01 | 3.01 | 3.00 | 3.01 | 3.01 | 3.01 | 3.00 | 3.00 | 3.01 | 0 | 4.52 | 5.07 | 0.30 |
| FM | 2.93 | 4.42 | 2.93 | 2.93 | 2.92 | 2.94 | 2.94 | 2.92 | 2.94 | 2.93 | 2.93 | 0 | 4.44 | 0 | 0 |
| PIN'S NUMBER | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | |
| AM | 0 | 2.36 | 1.10 | 0.45 | 4.66 | 0 | 0 | 2.29 | 4.50 | 2.12 | 1.78 | 4.50 | 0 | 0 | |
| FM | 0 | 2.31 | 1.15 | 0.38 | 4.59 | 2.29 | 0 | 0 | 4.42 | 2.09 | 1.76 | 4.42 | 0 | 0 | |

IC203(BU4066BCF)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM | 0 | 4.29 | 5.09 | 5.04 | 1.25 | 0 | 0 | 0 | 4.38 | 0 | 4.42 | 0 | 0 | 5.07 |
| FM | 0 | 4.23 | 5.03 | 5.02 | 1.06 | 0 | 0 | 0 | 4.24 | 0 | 4.25 | 0 | 0 | 5.05 |
| | Q903(C458) | | | Q130(C535) | | | | | | | | | | |
| | E | C | B | E | C | B | | | | | | | | |
| AM | 0.82 | 2.42 | 1.46 | 0 | 0 | 0 | | | | | | | | |
| FM | 0.88 | 2.56 | 1.52 | 0 | 2.98 | 0.76 | | | | | | | | |

## POWER AMP SECTION

TEST CONDITION: TAPE PLAY

IC101(TC4013BP)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAPE PLAY | 5.19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5.20 | 5.22 |

IC102(TC4013BP)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAPE PLAY | 0 | 5.03 | 0 | 0 | 5.08 | 0 | 0 | 0 | 5.07 | 0 | 0 | 5.04 | 0 | 5.24 |

IC901(TA8205)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| TAPE PLAY | 1.96 | 0 | 0 | 0.70 | 0 | 0 | 0 | 0 | 12.26 |
| PIN'S NUMBER | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | |
| TAPE PLAY | 12.29 | 0 | 0 | 0 | 0 | 0 | 0 | 12.28 | |

# VOLTAGE CHART - Cont.

## CD SECTION

TEST CONDITION: CD PLAY

IC1(TC9284BF)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 2.50 | 2.71 | 4.84 | 2.72 | 2.49 | 0 | / | / | / | / | 4.84 | 0 | 4.46 | 4.52 |
| PIN'S NUMBER | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| | 0 | 0 | 4.32 | 4.67 | / | 4.84 | / | / | / | 4.85 | 0 | 2.21 | 2.06 | 2.06 | 2.06 |
| PIN'S NUMBER | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |
| | 1.99 | 2.06 | 1.68 | 2.06 | 4.82 | 1.78 | 4.81 | 2.06 | 2.06 | 2.20 | 4.12 | 4.82 | 2.42 | 2.42 | 2.08 |
| PIN'S NUMBER | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| | 2.06 | 2.08 | 2.06 | 2.06 | 2.32 | 2.33 | 2.06 | 2.03 | 0 | 2.35 | / | 2.35 | 4.86 | 4.86 | 2.07 |
| PIN'S NUMBER | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 |
| | 2.02 | 0 | 0 | 1.17 | 0 | / | 0 | / | / | / | / | / | / | / | / |
| PIN'S NUMBER | 76 | 77 | 78 | 79 | 80 | | | | | | | | | | |
| | / | / | 1.74 | 0 | 0 | | | | | | | | | | |

IC2(TA2065F)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2.16 | 2.05 | 2.06 | 4.11 | 2.32 | 2.32 | 2.32 | 2.05 | 2.05 | 2.11 | 2.08 | 1.97 | 2.06 | 2.08 | 2.08 |
| PIN'S NUMBER | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| | 2.18 | 2.17 | 2.43 | 0 | 4.85 | 4.83 | 2.08 | 2.08 | 2.15 | 2.11 | 2.03 | 2.05 | 2.06 | 1.98 | 2.06 |
| PIN'S NUMBER | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |
| | 2.06 | 2.07 | 2.06 | 2.06 | 2.07 | 2.06 | 2.06 | 2.07 | 1.76 | / | 2.01 | 1.69 | 1.77 | 2.04 | 3.71 |
| PIN'S NUMBER | 46 | 47 | 48 | | | | | | | | | | | | |
| | 0.18 | 2.06 | 2.11 | | | | | | | | | | | | |

IC3(TA2092N)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 2.96 | 7.26 | 3.69 | 2.18 | 2.06 | 3.34 | 2.02 | 3.26 | 7.25 | 3.44 | 0 |
| PIN'S NUMBER | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| | 0 | 3.02 | 7.23 | 3.66 | 2.17 | 0 | 7.25 | 2.06 | 3.31 | 7.28 | 3.36 | 0 |

IC4(BA4558)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| | 4.72 | 4.32 | 4.29 | 0.02 | 4.29 | 4.31 | 4.72 | 6.97 |

IC6(BA6218)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| DISC SKIP | 2.07 | 0 | 2.07 | / | 0 | 5.02 | 0.06 | 0 | 4.18 |

IC7(BA6218)

| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| OPEN | 0 | 0 | 2.06 | 0 | 0 | 4.99 | 0.11 | 0 | 4.15 |
| CLOSE | 2.07 | 0 | 0 | 0 | 0 | 4.99 | 4.16 | 0 | 0.07 |

IC801(LMT393N)

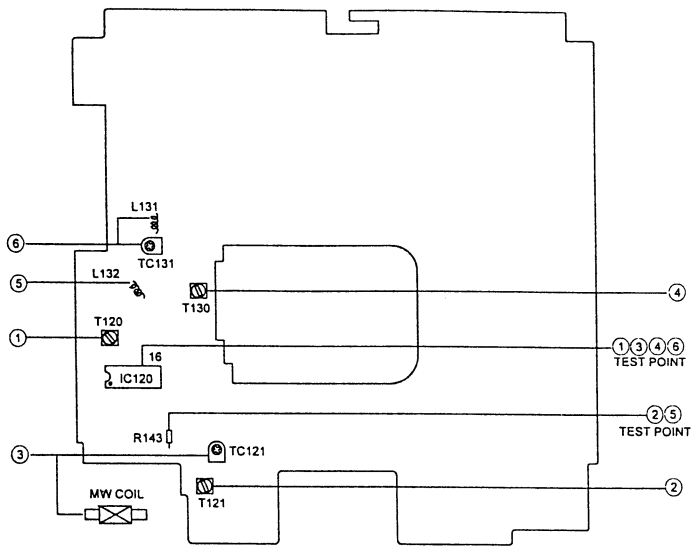
| PIN'S NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| | 0.02 | 0.64 | 0 | 0 | 1.39 | 0.19 | 0 | 5.04 |

CN1(78M05A)

| PIN'S NUMBER | 1 | 2 | 3 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8.00 | 0 | 5.06 | | | | | | | | | | | | |
| | Q1(8550) | | | Q2(8550) | | | Q3(C458) | | | Q4(C458) | | | Q5(A844) | | |
| | E | C | B | E | C | B | E | C | B | E | C | B | E | C | B |
| | 4.37 | 2.06 | 3.69 | 4.86 | 7.26 | 5.53 | 0 | 0 | 0 | 0 | 0 | 0.04 | 4.85 | 0.02 | 4.85 |

# ABGLEICH TUNER/CASSETTE

## ALIGNMENT SET-UP PROCEDURES




TUNER SECTION

### TUNER SECTION

1. AM IF Adjustment
   Test point: IC120(BA1448S) 16 PIN
   Adjustment Location: T120
   T120 --------- 450KHz

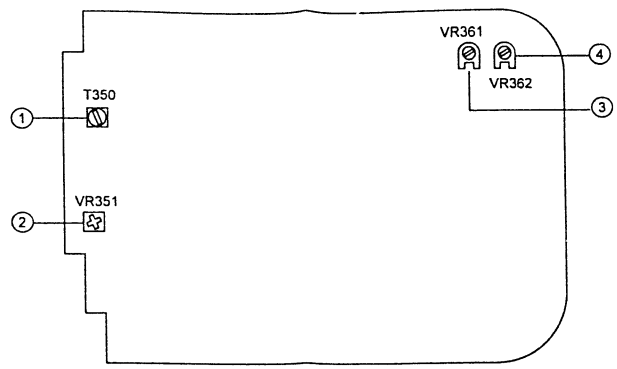
2. MW Frequency Range Adjustment
   Set the frequency to be 531 KHz then test voltage
   Test point: R143
   Adjustment Location: T121
   T121 ---------- Test point voltage is 1.7V

3. MW Tracking Adjustment
   Test point: IC120(BA1448S) 16 PIN
   Adjustment Location: MW COIL,TC121
   MW COIL -------- 603KHz Waveform Max
   TC121 -------- 1404KHz Waveform Max

4. FM IF Adjustment
   Test point: IC120(BA1448S) 16 PIN
   Adjustment Location: T130
   T130 -------- 10.7 MHz

5. FM Frequency Range Adjustment
   Set the frequency to be 87.5MHz then test voltage
   Test point: R143
   Adjustment Location: L132
   L132 ---------- Test point voltage is 2.8V

6. FM Tracking Adjustment
   Test point:IC120(BA1448S) 16 PIN
   Adjustment Location: L131,TC131
   L131---------- 90MHz Waveform Max
   TC131 ---------- 106MHz Waveform Max




CASSETTE SECTION

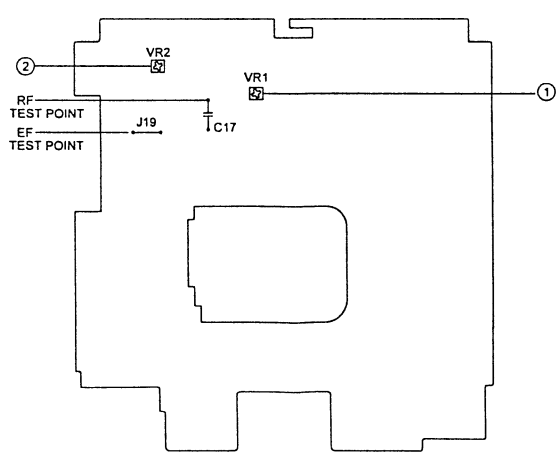
### CASSETTE SECTION

1. BIAS Frequency Adjustment
   Test point: T350 4 PIN
   Adjustment Location: T350
   T350 ---------- 60KHz

2. BIAS Level Adjustment
   Test point: T350 4PIN
   Adjustment Location: VR351
   VR351 ---------- 14V

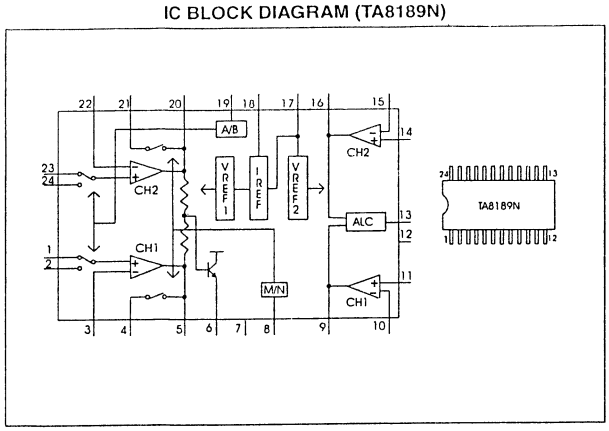
3. Normal Tape Speed Adjustment
   Test point: HEADPHONE
   Adjustment Location: VR362
   VR362 ---------- 2980-3020Hz

4. HI Tape Speed Adjustment
   Test point: HEADPHONE
   Adjustment Location: VR361
   VR361 ---------- 5900-6100Hz

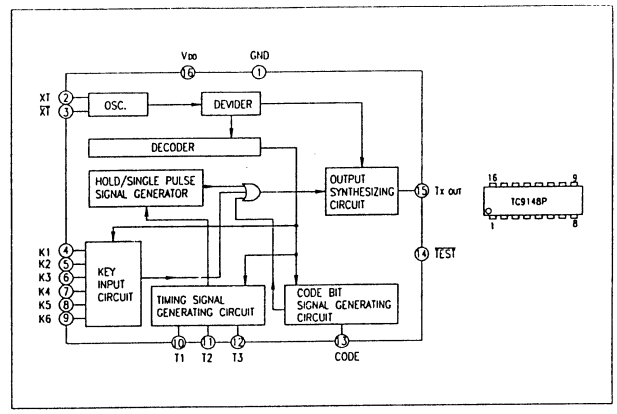



CD SECTION

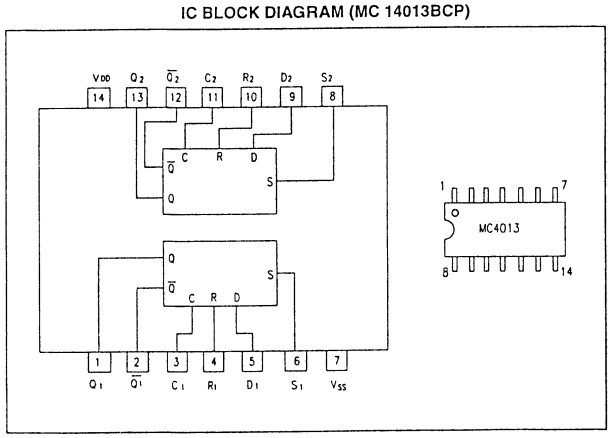
## IC BLOCK DIAGRAM (TA8189N)



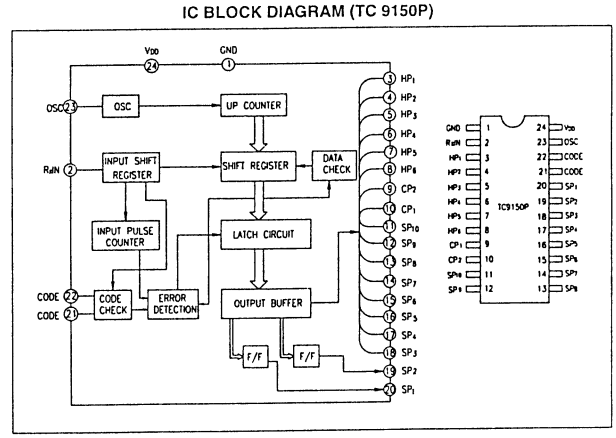

## IC BLOCK DIAGRAM (TC 9148P)



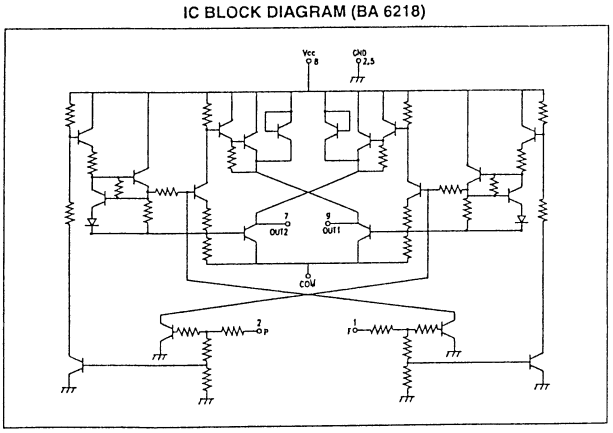

## IC BLOCK DIAGRAM (MC 14013BCP)



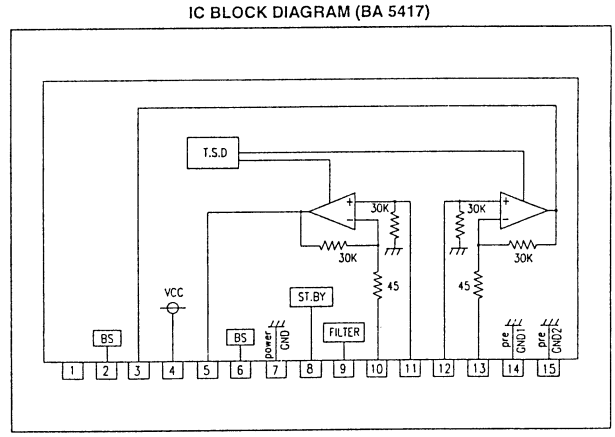

## IC BLOCK DIAGRAM (TC 9150P)



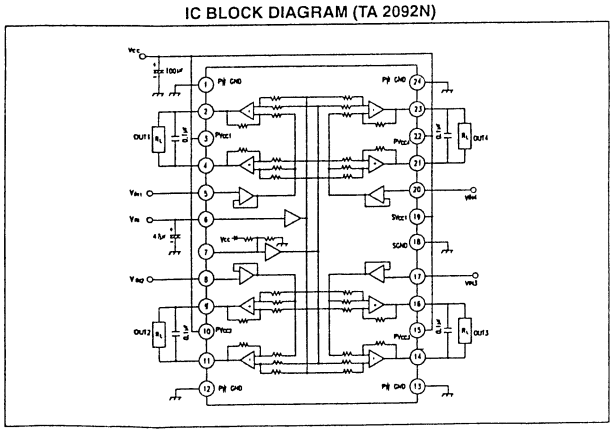

## IC BLOCK DIAGRAM (BA 6218)



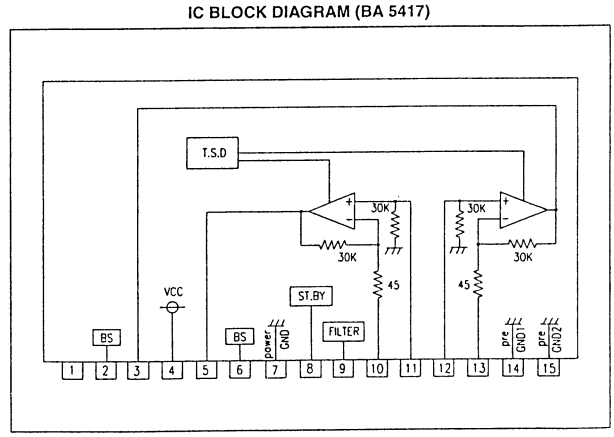

## IC BLOCK DIAGRAM (BA 5417)




## IC BLOCK DIAGRAM (TA 2092N)



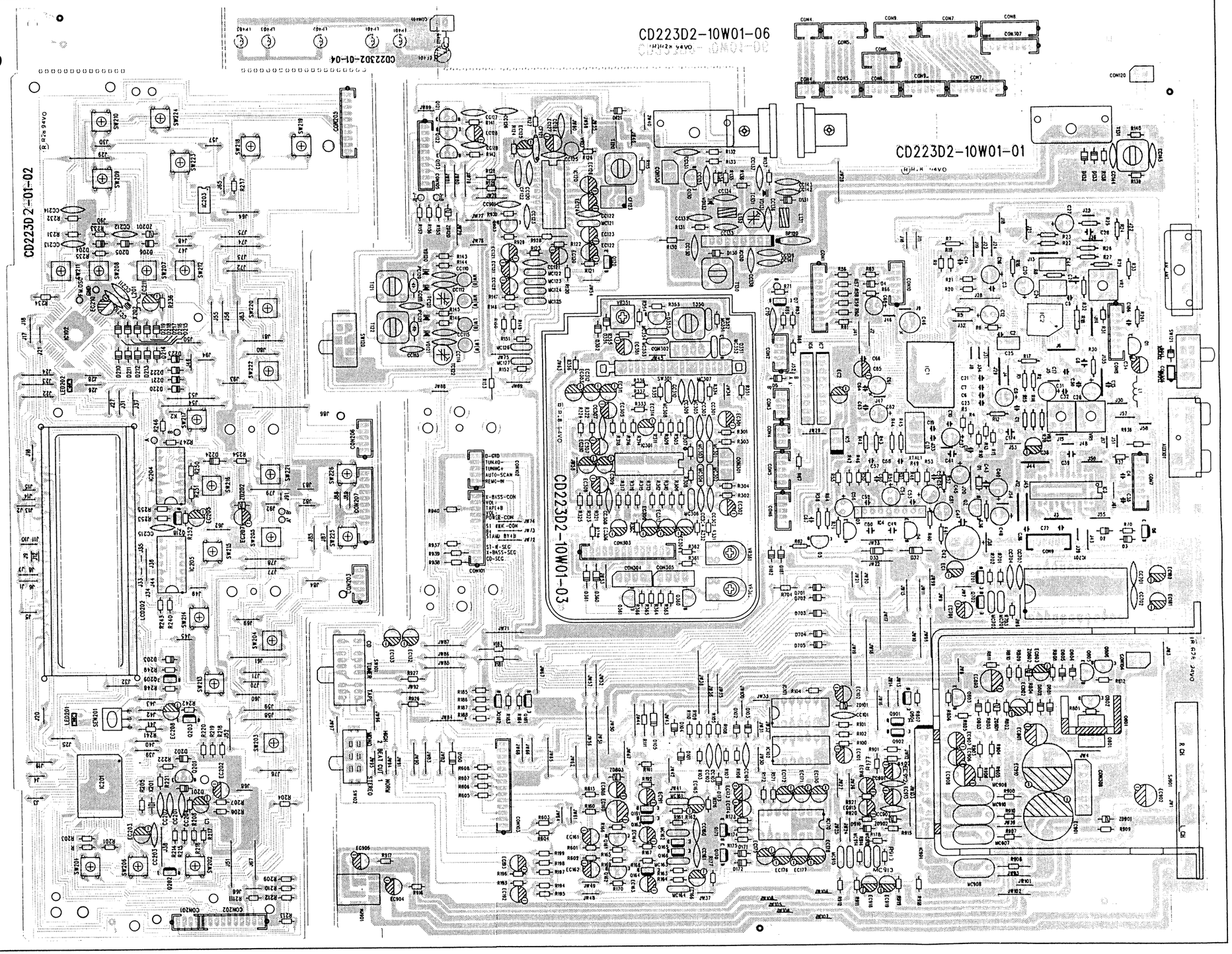
## IC BLOCK DIAGRAM (BA 5417)



# HAUPTPLATINE

## PCB LAYOUT DIAGRAM

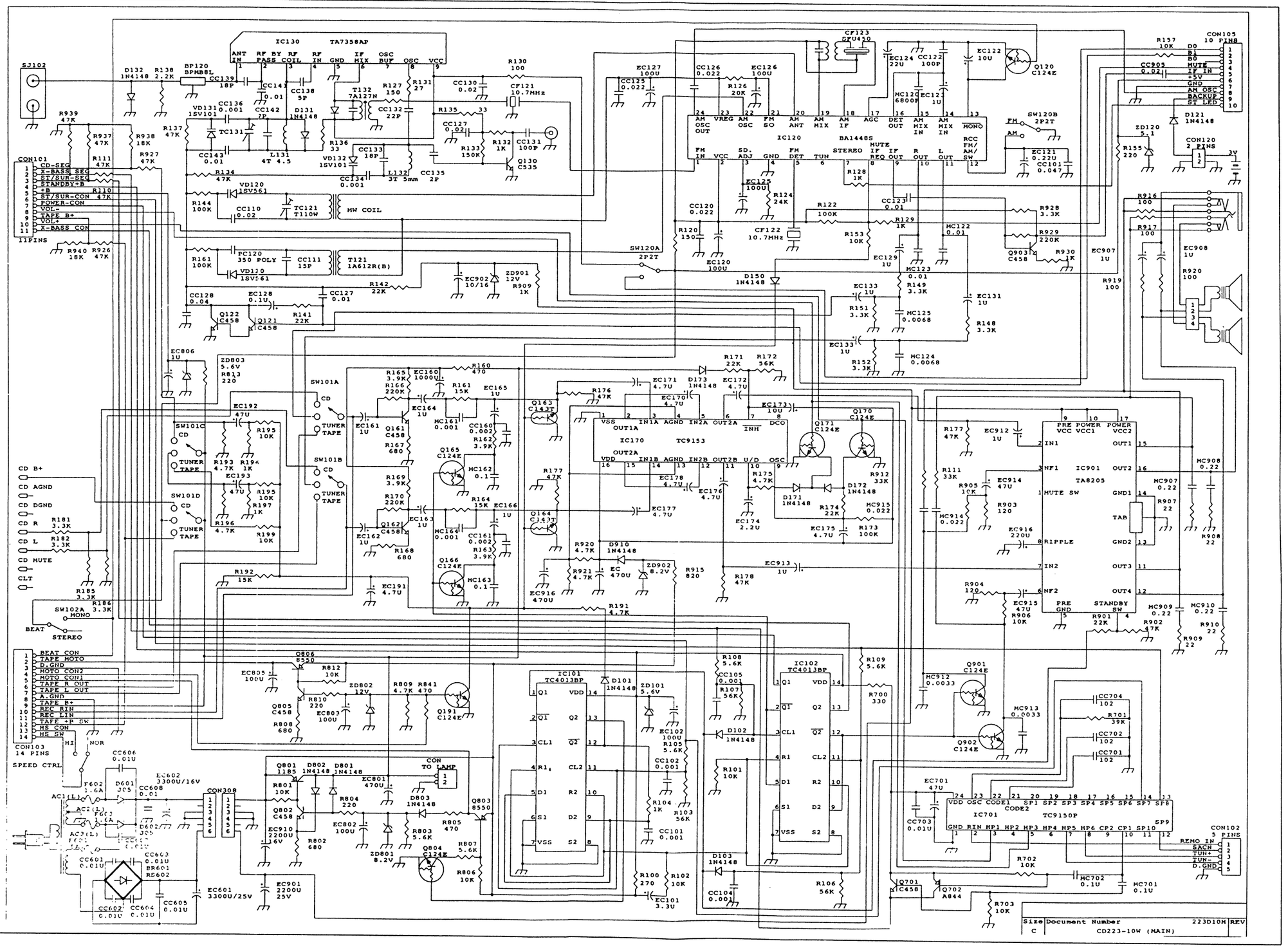
MAIN BOARD
CD223D2-10W01-01
DISPLAY & CONTROL BOARD
CD223D2-01-02
CASS. & PRE AMP. BOARD
CD223D2-10W01-03
LIGHT BOARD
CD223D2-01-04
CONNECTION BOARD
CD223D2-10W01-06



# SCHALTPLAN HAUPTPLATINE

## SCHEMATIC DIAGRAM

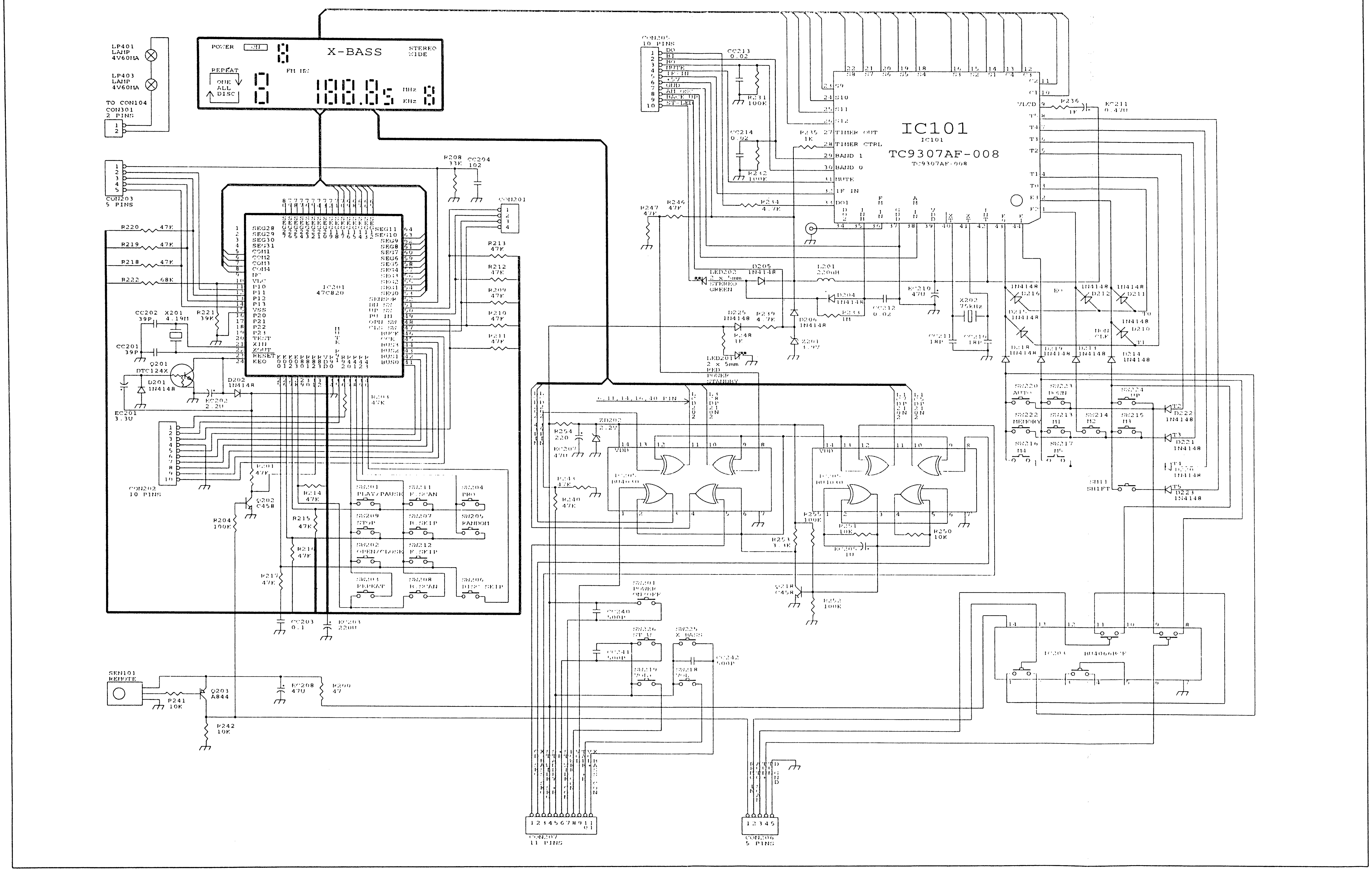
### TUNER SECTION



# ANZEIGE-.BEDIENSCHALTPLAN

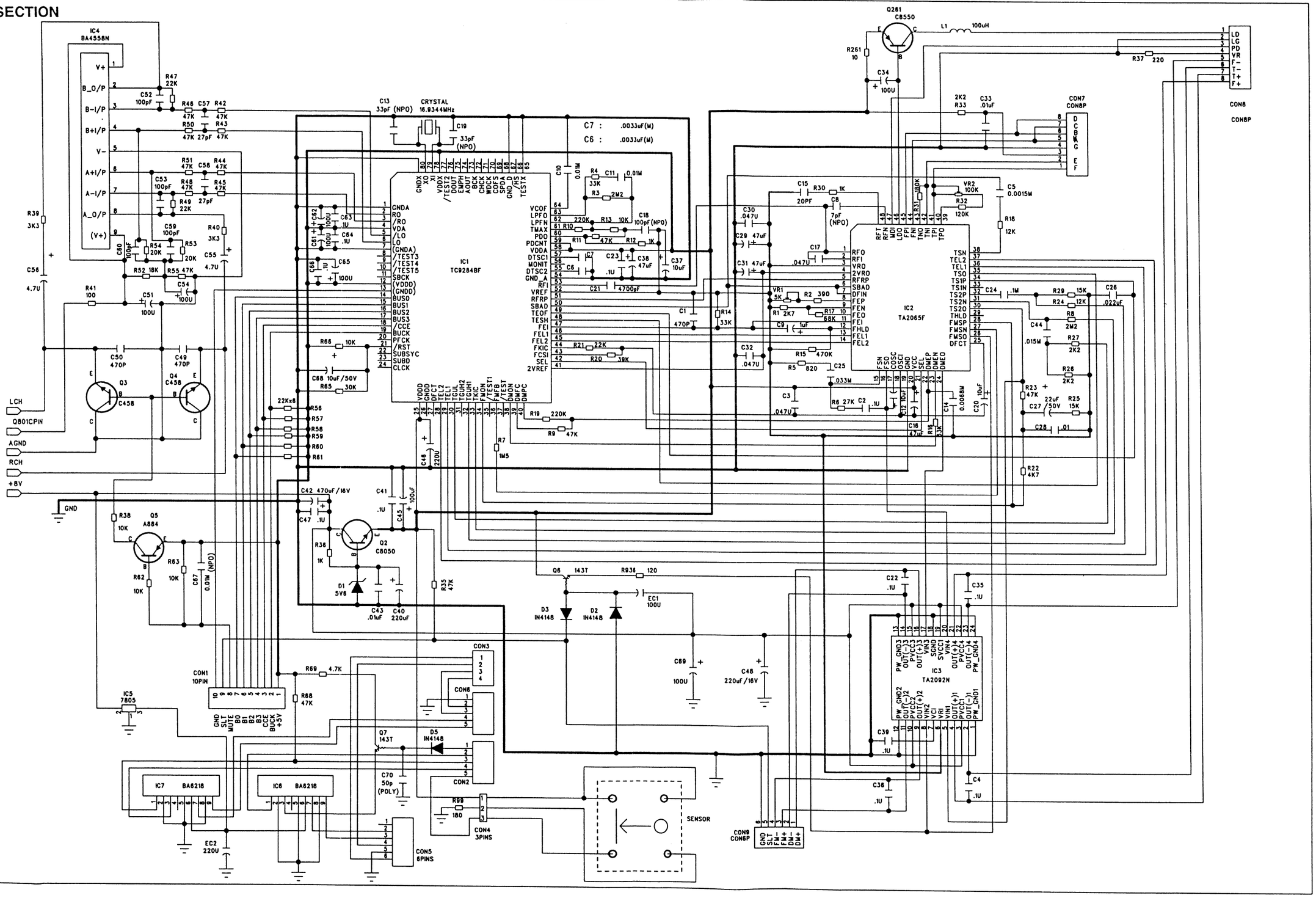
## SCHEMATIC DIAGRAM

CONTROL SECTION



LP401 LAMP 4V60MA
LP403 LAMP 4V60MA
TO CON104
CON301 2 PINS
POWER
ON
X-BASS
STEREO WIDE
REPEAT
ONE ALL DISC
FM MW
MHz
KHz
CON203 5 PINS
R220 47K
R219 47K
R218 47K
R222 68K
CC202 39P
X201 4.19M
R221 39K
CC201 39P
Q201 DTC124X
D201 1N4148
EC201 3.3U
D202 1N4148
EC202 2.2U
IC201 47C820
SEG28
SEG29
SEG30
SEG31
COM1
COM2
COM3
COM4
NC
VLC
P10
P11
P12
P13
VSS
P20
P21
P22
P23
TEST
XIN
XOUT
RESET
KEO
SEG11
SEG10
SEG9
SEG8
SEG7
SEG6
SEG5
SEG4
SEG3
SEG2
SEG1
SEG0
SENSOR
BUCK
BUS3
BUS2
BUS1
BUS0
R203 47K
CON202 10 PINS
R201 47K
Q202 C458
R204 100K
R214 47K
R215 47K
R216 47K
R217 47K
SW201 PLAY/PAUSE
SW211 F.SCAN
SW204 PRO
SW209 STOP
SW207 B.SKIP
SW205 RANDOM
SW202 OPEN/CLOSE
SW212 F.SKIP
SW203 REPEAT
SW208 B.SCAN
SW206 DISC SKIP
CC203 0.1
EC203 220U
SEN101 REMOTE
P241 10K
Q203 A844
R242 10K
EC208 47U
R200 47
R208 33K
CC204 102
CON201
R213 47K
R212 47K
R209 47K
R210 47K
R211 47K
CON205 10 PINS
DO
BI
BO
MUTE
IF IN
+5V
GND
AM OSC
BACK UP
ST-LED
CC213 0.02
R231 100K
CC214 0.02
R232 100K
R235 1K
R247 47K
R246 47K
R234 4.7K
IC101
TC9307AF-008
TIMER OUT
TIMER CTRL
BAND 1
BAND 0
MUTE
IF IN
DO1
VLCD
R236 1K
EC211 0.47U
LED202 2 x 5mm STEREO GREEN
D205 1N4148
L201 220uH
D204 1N4148
CC212 0.02
R233 1M
EC210 47U
X202 75kHz
CC211 18P
CC210 18P
D225 1N4148
R239 4.7K
R248 1K
D206 1N4148
Z201 3.9V
LED201 2 x 5mm RED POWER STANDBY
1N4148 D216
1N4148 D212
1N4148 D211
D217 1N4148
1N4148 D210
NON CLK
D218 1N4148
D219 1N4148
D213 1N4148
D214 1N4148
SW220 AUTO
SW223 DOWN
SW224 UP
SW222 MEMORY
SW213 M1
SW214 M2
SW215 M3
SW216 M4
SW217 M5
D222 1N4148
D221 1N4148
D226 1N4148
SW11 SHIFT
D223 1N4148
6,11,14,16,40 PIN
R254 220
ZD202 2.2V
EC207 47U
IC205 BU4030
R243 47K
R240 47K
R255 100K
R253 3.3K
R251 10K
R250 10K
EC205 1U
Q218 C458
R252 100K
SW201 POWER ON/OFF
CC240 500P
SW226 ST W
SW225 X BASS
CC241 500P
CC242 500P
SW219 VOL
SW218 VOL
IC203 BU4066BCF
CON207 11 PINS
CON206 5 PINS

# CD-SCHALTPLAN

## SCHEMATIC DIAGRAM

### CD SECTION